Permit #: #28.9904-02-01C

Effective Date: Draft



Steven M Pirner, Secretary Department of Environment and Natural Resources

Under the South Dakota Air Pollution Control Regulations

Pursuant to Chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota and in reliance on statements made by the owner designated below, a permit to construct and operate is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes such owner to construct and operate the permitted unit(s) at the location designated below and under the listed conditions.

A. Owner

1. Company Name and Mailing Address

Ellsworth Air Force Base, USAF 28 CES/CEV 2013 Scott Drive Ellsworth AFB, South Dakota 57706-4710

2. Actual Source Location if Different from Above

Same as above

3. Permit Contact

Jens Christensen Ellsworth Air Quality and EMS Program Manager (605) 385-6625

4. Facility Contact

Jens Christensen Ellsworth Air Quality and EMS Program Manager (605) 385-6625

5. Responsible Official

Colonel Joseph Brown Commander, 28th Bomb Wing

B. Permit Revisions

Not applicable

C. Type of Construction

Installation of two diesel generators to back-up facility operations

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1.0 STANDARD CONDITIONS

1.1 Construction and operation of source

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:20:15(9), the owner or operator shall construct and operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application submitted and dated January 5, 2012, unless modified by the conditions of this permit. Except as otherwise provided herein, the control device in Table 1-1 shall be operated in manner that achieves compliance with the conditions of this permit at all times. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

Table 1-1 - Description of	f Permitted Units	s, Operations, and Processes
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	Maximum	Control
Description	Operating Rate	Device
Internal Combustion Engine Sources		
B-7510, 2012 Caterpillar diesel fired emergency	700 kilowatts heat	Not applicable
generator in Deployment Center	output	
B-1008, 2012 Caterpillar diesel fired emergency	600 kilowatts heat	Not applicable
generator in MQ-9 Facility	output	

1.2 Duty to comply

In accordance with ARSD 74:36:20:15(12)(a) and (c), the owner or operator shall construct and operate in compliance with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for enforcement, reopening this permit, permit termination, or denial of an application to operate. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit.

1.3 Property rights or exclusive privileges

In accordance with ARSD 74:36:20:15(12)(b), the issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant the owner's or operator's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will

not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

1.4 Penalty for violating a permit condition

In accordance with South Dakota Codified Laws (SDCL) 34A-1-39 and 34A-1-47, a violation of a permit condition may subject the owner or operator to civil or criminal prosecution, a state penalty of not more than \$10,000 per day per violation, injunctive action, administrative permit action, and other remedies as provided by law.

1.5 Inspection and entry

In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary to:

- 1. Enter the premises where a regulated activity is located or where pertinent records are stored;
- 2. Have access to and copy any records that are required under this permit;
- 3. Inspect the construction and operations regulated under this permit; and/or
- 4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

1.6 Severability

In accordance with ARSD 74:36:20:15(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

1.7 Credible evidence

In accordance with ARSD 74:36:13:07, credible evidence may be used for the purpose of establishing whether the owner or operator has violated or is on violation of this permit. Credible evidence is as follows:

- 1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at the source:
 - a. A monitoring method approved for the source pursuant to 40 CFR § 70.6(a)(3) and incorporated in this permit; or
 - b. Compliance methods specified in an applicable plan;
- 2. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information-gathering methods:
 - a. Any monitoring or testing methods approved in this permit, including those in 40 CFR Parts 51, 60, 61, and 75; or
 - b. Other testing, monitoring, or information-gathering methods that produce information comparable to that produced by any method in section (1) or (2)(a).

2.0 CONSTRUCTION AND OPERATING PERMIT DEADLINES

2.1 Commence construction

In accordance with ARSD 74:36:20:21, this permit becomes invalid if the owner or operator has not commenced construction within 18 months of the effective date of this permit; discontinued construction for a period of 18 months or more; or construction is not completed within 10 years of the effective date of this permit.

3.0 PERMIT REVISIONS

3.1 Administrative permit amendment

In accordance with ARSD 74:36:20:16 and 74:36:20:17, the Secretary shall determine whether an administrative permit amendment is applicable to a proposed revision within 15 days from receiving a request for a permit revision. The Secretary shall issue an administrative permit amendment without the procedural requirements applicable to obtaining this construction permit. As provided in ASRD 74:36:01:03, the Secretary considers a proposed revision an administrative permit amendment if the proposed revision accomplishes one of the following:

- 1. Corrects typographical errors;
- 2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change at the source;
- 3. Requires more frequent monitoring or reporting by the source;
- 4. The ownership or operational control of a source changes and the Secretary determines that no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
- 5. Any other change that the Secretary determines to be similar to those requirements in this condition.

3.2 Reopening permit

In accordance with ARSD 74:36:20:18 and 74:36:20:19, the Secretary may reopen this permit for further review if the Secretary determines the permit contains a material mistake in establishing the emissions standard or limits or other requirements of the construction permit or the Secretary determines the construction permit must be revised to ensure compliance with the applicable requirements of ARSD 74:36 and the federal Clean Air Act. The Secretary shall notify the owner or operator 30 days prior to reopening a construction permit or in a shorter time period in an emergency. The reopening of this construction permit shall follow the same procedural requirements to issue a construction permit and shall affect only those parts of the permit for which cause to reopen exist.

4.0 RECORDKEEPING AND REPORTING

4.1 Recordkeeping and reporting

In accordance with ARSD 74:36:20:15(10), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the date of sample, measurement, report, or application. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All notifications and reports shall be submitted to the following address:

South Dakota Department of Environment and Natural Resources PMB 2020, Air Quality Program 523 E. Capitol, Joe Foss Building Pierre, SD 57501-3181

4.2 Construction date notification

In accordance with ARSD 74:36:20:15(10), the owner or operator shall notify the Secretary of the date construction commences on two diesel generators identified in Table 1-1. The notification shall be postmarked within 15 days after the date construction commenced or issuance of this permit, whichever is later.

4.3 Initial startup notification

In accordance with ARSD 74:36:20:15(10), the owner or operator shall notify the Secretary of the actual date of the initial startup of diesel generator B-7510 and B-1008. The notification shall be postmarked within 15 days after the date of initial startup. For the purpose of this permit condition, initial startup means the first time fuel is combusted in diesel generator B-7510 and B-1008.

4.4 Certification statement

In accordance with ARSD 74:36:20:15(10), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

"I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete."

4.5 Reporting permit violations

In accordance with ARSD 74:36:20:15(10), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be

reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-5286.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the Secretary, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

- 1. A description of the permit violation and its cause(s);
- 2. The duration of the permit violation, including exact dates and times; and
- 3. The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

5.0 CONTROL OF REGULATED AIR POLLUTANTS

5.1 Visibility limit

In accordance with ARSD 74:36:12:01, the owner or operator may not discharge into the ambient air an air contaminant of a density equal to or greater than that designated as 20 percent opacity from any permitted unit, operation, or process listed in Table 1-1, unless otherwise specified in this permit. This provision does not apply when the presence of uncombined water is the only reason for failure to meet the requirement.

5.2 Visibility exceedances

In accordance with ARSD 74:36:12:02, an exceedance of the operating limit in permit condition 5.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. A malfunction is described as any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator of the source is not a malfunction and is considered a violation.

5.3 Circumvention not allowed

In accordance with ARSD 74:36:20:24, the owner or operator may not install, use a device, or use a means that conceals or dilutes an air emission that would otherwise violate this permit. This includes operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

5.4 Minimizing emissions

In accordance with ARSD 74:36:20:15(9), the owner or operator shall at all time, when practicable, maintain and operate all permitted units in a manner that minimizes air pollution emissions.

6.0 PERFORMANCE TESTS

6.1 Performance test may be required

In accordance with ARSD 74:36:11:02, the Secretary may request a performance test. A performance test shall be conducted while operating the unit at or greater than 90 percent of its maximum design capacity, unless otherwise specified by the Secretary. A performance test that is conducted while operating at less than 90 percent of its maximum design capacity will result in the operation being limited to the percent achieved during the performance test. The Secretary has the discretion to extend the deadline for completion of the performance test required by the Secretary if circumstances reasonably warrant but will not extend the deadline past a federally required performance test deadline.

6.2 Test methods and procedures

In accordance with ARSD 74:36:11:01, the owner or operator shall conduct the performance test in accordance with 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The Secretary may approve an alternative method if a performance test specified in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M is not applicable or required.

6.3 Representative performance test

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8(c), performance tests shall be conducted under such conditions as the Secretary shall specify to the owner or operator based on the representative performance of the unit being tested. The owner or operator shall make available to the Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in this permit.

6.4 Submittal of test plan

In accordance with ARSD 74:36:11:01, the owner or operator shall submit the proposed testing procedures to the Secretary at least 30 days prior to any performance test. The Secretary will notify the owner or operator if the proposed test procedures are approved or denied. If the proposed test procedures are denied, the Secretary will provide written notification that outlines what needs to be completed for approval.

6.5 Notification of test

In accordance with ARSD 74:36:11:03, the owner or operator shall notify the Secretary at least 10 days prior to the start of a performance test to arrange for an agreeable test date when the Secretary may observe the test. The Secretary may extend the deadline for the performance test in order to accommodate schedules in arranging an agreeable test date.

6.6 Performance test report

In accordance with ARSD 74:36:20:15(10), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

- 1. Description of the process and the air pollution control system being tested;
- 2. Sampling location description(s);
- 3. A description of sampling and analytical procedures and any modifications to standard procedures;
- 4. Test results expressed in units consistent with the applicable emission limit;
- 5. Quality assurance procedures and results;
- 6. Records of unit's operating conditions during the test (e.g., operating rate, fuel type);
- 7. Raw data sheets for field sampling and field and laboratory analyses;
- 8. Documentation of calculations;
- 9. All data recorded and used to establish parameters for compliance monitoring; and
- 10. Any other information required by the test method.

7.0 Emergency Generator NSPS Requirements

7.1 Emergency generator emission limits

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR §§ 60.4205(b) and 60.4206, the owner or operator shall operate and maintain the emergency generator that achieves the emission limits in Table 7-1 over the entire life of the emergency generator.

Table 7-1 – Emission Limits for Generators (grams per kilowatt-hour)

Unit	Nonmethane Hydrocarbon + Nitrogen Oxide	Carbon Monoxide	Particulate Matter
B-7510	6.4	3.5	0.20
B-1008	6.4	3.5	0.20

7.2 Fuel requirements for emergency generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4207(b), the owner or operator shall only combust diesel fuel in the emergency generator that meets the following per gallon standards:

- 1. Maximum sulfur content of 15 parts per million; and
- 2. Minimum cetane index of 40; or
- 3. Maximum aromatic content of 35 volume percent.

7.3 Operating requirements for emergency generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(a), the owner or operator shall comply with the following, except as specified in permit condition 7.6:

- 1. Operate and maintain the generators according to the manufacturer's emission-related written instructions:
- 2. Change only those emission-related settings that are permitted by the manufacturer; and
- 3. Meet the applicable requirements in 40 CFR Part 89, 94, and/or 1068.

7.4 Compliance with emergency generator emission limits

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(c), the owner or operator shall demonstrate compliance with the emission limits in permit condition 7.1 by purchasing an engine certified to meet the emission limits in permit condition 7.1. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in permit condition 7.6.

7.5 Annual operation of emergency generator

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(f), the owner or operator may operate the emergency generator for the purpose of maintenance checks and readiness testing, provided the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency generator in emergency situations. The owner or operator may petition the Secretary for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating Federal, State, or local standards require maintenance and testing of emergency generators beyond 100 hours per year. Emergency generators may operate up to 50 hours per year in nonemergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

7.6 Alternative requirements for emergency generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4211(g)(3), if the owner or operator does not install, configure, operate, and maintain the generators according to the manufacturer's emission-related written instructions or changes the emission-related settings in a way that is not permitted by the manufacturer, the owner or operator must demonstrate compliance as follows:

1. Maintain a maintenance plan and records of conducted maintenance;

- 2. To the extent practicable, maintain and operate the generator in a manner consistent with good air pollution control practice for minimizing emissions;
- 3. Conduct an initial performance test to demonstrate compliance with the emission limits in permit condition 7.1 within 1 year of startup, within 1 year after the emergency generator is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after the owner or operator changes emission-related settings in a way that is not permitted by the manufacturer; and
- 4. Conduct subsequent performance tests every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

7.7 Performance test requirements for emergency generators

In accordance with ARSD 74:36:07:88, as referenced to 40 CFR § 60.4212(a) and (c), if the owner or operator conducts a performance test to demonstrate compliance with permit condition 7.1, the following procedures shall be followed:

- 1. The performance test must be conducted according to the in-use testing procedures in 40 CFR Part 1039, Subpart F; and
- 2. Exhaust emissions from the emergency generator must not exceed the "NTE" numerical requirements, rounded to the same number of decimal places as the applicable emission limit in permit condition 7.1 and determined by Equation 7-1.

Equation 7-1 – NTE formula

 $NTE = 1.25 \times STD$

Where:

- NTE = Numerical requirement for each pollutant identified in Table 7-1; and
- STD = Emission limit for each pollutant identified in Table 7-1

7.8 Non-resettable clock

In accordance with ARSD 74:36:05:16.01(9), the owner or operator shall install, maintain, and operate a non-resettable hour meter on the emergency generator prior to initial startup.

8.0 Recommendation

A review of this facility indicates it can construct and operate in compliance with South Dakota's Air Pollution Control rules and the federal Clean Air Act. The Secretary, therefore, recommends the Board of Minerals and Environment issue this air quality construction permit with conditions to ensure compliance with SDCL 34A-1 and the federal Clean Air Act. Any questions pertaining to the Secretary's recommendation should be directed to Marc Macy, Engineer III, at (605) 773-3151.